

A NEW SPECIES OF SOCIAL WASP IN THE GENUS *APOICA* LEPELETIER
(HYMENOPTERA: VESPIDAE: POLISTINAE: EPIPONINI)

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Abstract.—*Apoica ambracarina*, n. sp. is described from queens, workers, and males. It is known from Rio Branco, Brazil, São Felix do Xingu, Brazil, and Tuparro Cerro Tomas, Colombia. Male genitalia and descriptive characters of all castes are illustrated. This is the ninth described species of the nocturnal genus *Apoica*.

Key Words: *Apoica ambracarina*, new species, Vespidae, Polistinae

Apoica Lepeletier is a genus of large-bodied, swarm-founding social wasps (Hymenoptera: Vespidae; Polistinae, Epiponini) distributed from Mexico to Argentina. *Apoica* are distinguished from other epiponines by their unusually large ocelli and associated nocturnality. Some *Apoica* are light in overall color, including the yellow *A. flavissima* Vecht, the cream-colored *A. pallens* (F.), and the white *A. gelida* Vecht. Some *Apoica* (*A. arborea* de Saussure and *A. strigata* Richards) have a "striped" appearance on the metasoma, generated by pale areas of the terga. Others are more or less uniformly dark brown to black in color with few pale markings, including *A. pallida* (Olivier), *A. thoracica* du Buysson, and *A. albimacula* (F.). Richards (1978) last revised the group, discussing these eight species. Although the species described here is generally a dark amber color, it is easily distinguished from other dark-bodied *Apoica* by its possession of a unique suite of characters.

Apoica ambracarina Pickett, new species
(Figs. 1–9, 10A, 11B)

Diagnosis.—Predominantly amber colored. Posterior border of terminal metasoma

rounded, with longitudinal, median carina. Propodeal bristles erect, not curved. Eye bristles present and prominent over the entire surface of the eyes. Scutal bristles reaching posterior margin of scutum. Habitus of queen, worker, and male shown in Fig. 1.

Queen.—*Morphology:* Average wing length 1.78 cm ($n = 5, \pm 0.027$). Prominent longitudinal carina between antennal sockets (Fig. 2A). Median scutal sulcus wide, flaring anteriorly. Metanotum rounded, with obvious carina (as in Fig. 5). *Color:* Terminal two flagellomeres of antenna pale. Body almost entirely amber colored, with mesosoma slightly darker amber than metasoma. Scutum with two dark brown parapsidal furrows, fusing posteriorly (Fig. 3A). Posterior border of the terminal metasomal tergum pale yellow (Fig. 4A).

Worker.—*Morphology:* Average wing length 1.85 cm ($n = 5, \pm 0.035$). Prominent carina between antennal sockets, as in queen (Fig. 2B). Median scutal sulcus as in queen. Metanotum rounded, with obvious carina (Fig. 5). *Color:* Scutum with two dark brown parapsidal furrows, fusing posteriorly (Fig. 3B). Posterior border of the

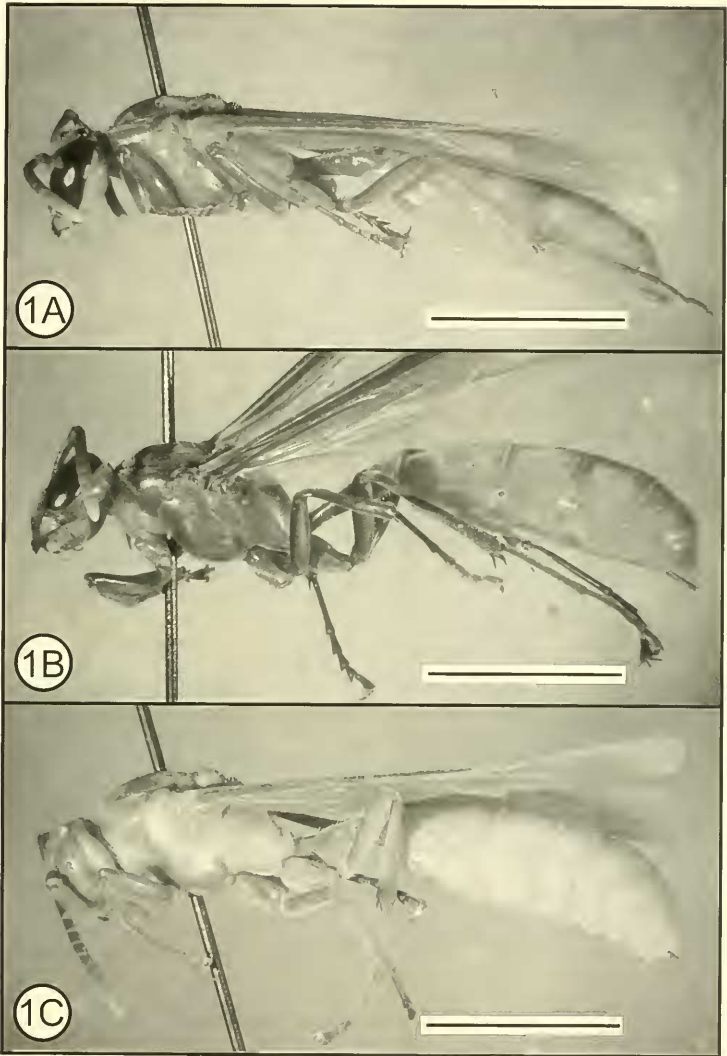
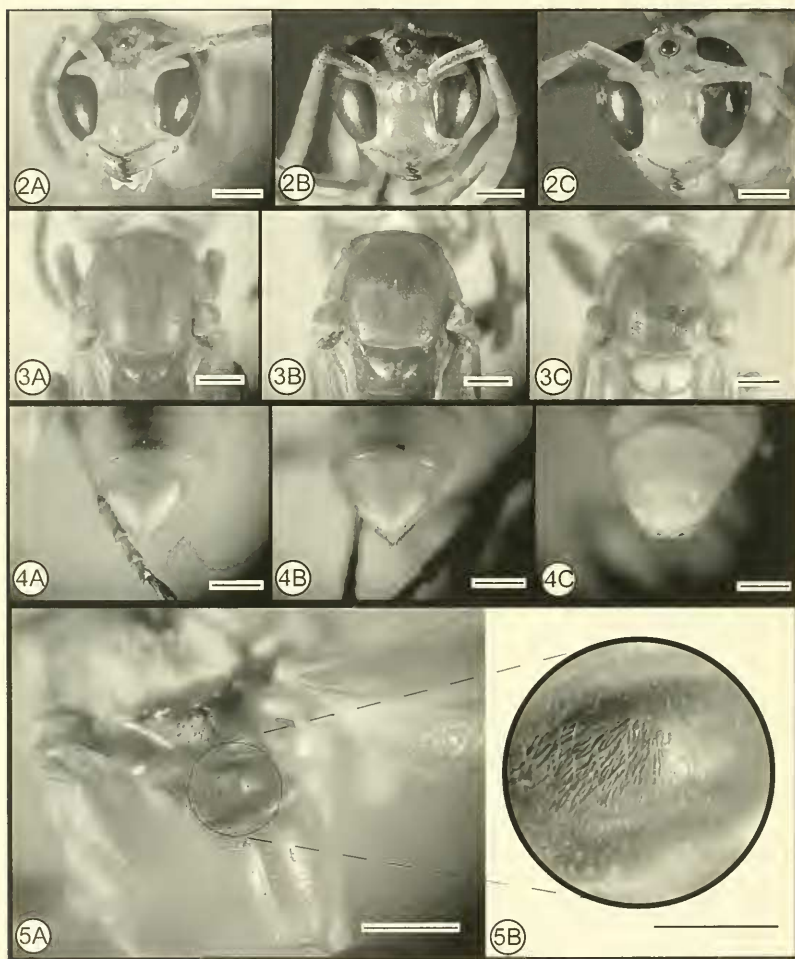


Fig. 1. Habitus of a queen (A), worker (B), and male (C) of *Apoica ambracarina*. Scale bars = 5.0 mm.



Figs. 2-5. *Apoica ambracarina*. 2, Frontal view of heads of a queen (A), worker (B), and male (C) showing carina between antennal sockets; scale bars = 3.0 mm (A), 3.0 mm (B), and 2.0 mm (C). 3, Dorsal view of mesosoma of a queen (A), worker (B), and male (C) showing dark brown parapsidal furrows; scale bars = 1.0 mm. 4, Dorsal view of terminal metasomal tergum of a queen (A), worker (B), and male (C) showing pale (yellow) posterior edge; scale bars = 2.0 mm. 5, (A) Oblique posterior view of mesosoma of worker holotype of *A. ambracarina* showing metanotal carina, enlarged in (B) for clarity; scale bars = 2.0 mm (A) and 1.0 mm (B).

terminal metasomal tergum pale yellow (Fig. 4B). Metasoma slightly darker than in queen.

Male.—*Morphology*: Average wing length 1.63 cm ($n = 5, \pm 0.044$). Prominent carina between antennal sockets (Fig. 2C). Median scutal sulcus less developed than in female. Many prominent bristles on entire scutum, all curving medially. Metanotal carina slight, nearly absent. *Genitalia*: Distal end of aedeagus punctured, with sensilla emerging from punctures (Fig. 6a). Central region of aedeagus with numerous denticles (Fig. 6B). Parameral spine extending far below body of paramere (Fig. 8) Paramereal spine with setae straight or curving slightly (Fig. 8A). Tip of digitus attaches to cuspis; digitus rounded and curved at tip (Fig. 9). Cuspis with prominent, curved setae (Fig. 9). *Color*: Scutellum and metanotum mostly pale yellow. Scutum with two dark brown parapsidal furrows, fusing posteriorly (Fig. 3C). Posterior border of terminal metasomal tergum pale yellow (Fig. 4C). Generally lighter in overall color than female.

Type material.—Holotype worker, labeled "Rio Branco, Acre State, Brazil, coll. S. Mateus and F. B. Noll, 10 X 1998" All paratypes from same colony, same data as holotype. Paratypes include 80 workers, 11 males, and 9 queens, labeled as such. Holotype and 40 worker, 5 male, and 5 queen paratypes are deposited in the Museu de Zoologia, Universidade de São Paulo, Brasil. The remaining paratypes are deposited in the Ohio State University Insect Collection, Columbus (20 workers, 3 males, 2 queens) and the American Museum of Natural History, New York (20 workers, 3 males, 2 queens).

Distribution.—*Apoica ambracarina* is known from the type locality; São Felix do Xingu, Brazil; and Tuparro Cerro Tomas, Colombia.

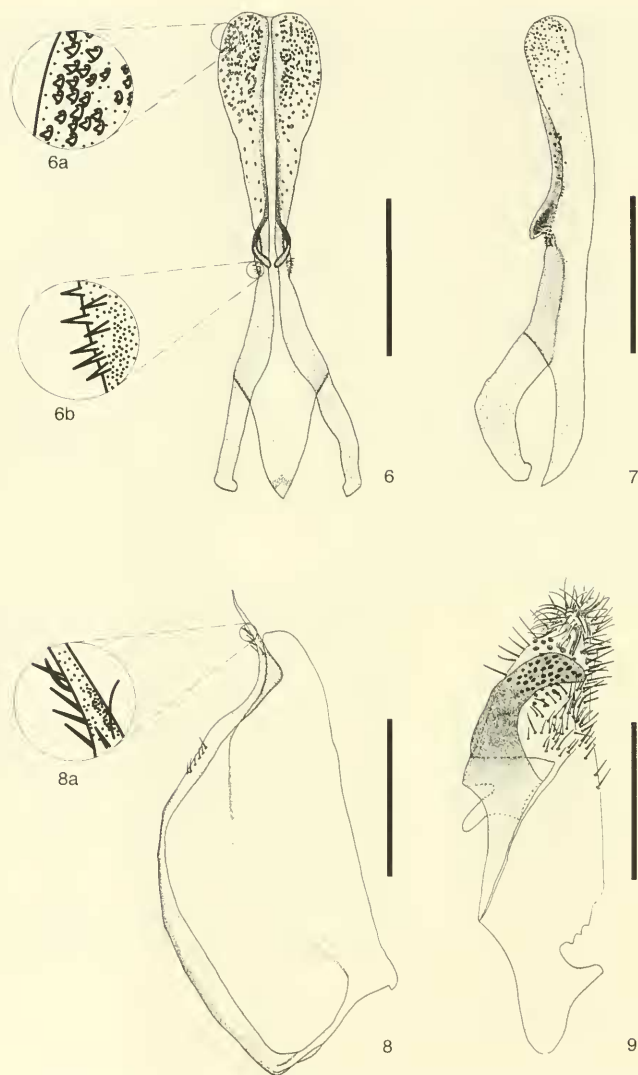
Other material examined.—1 ♀: "Columbia Vicnada PNN, Tuparro Cerro Tomas 140 m, 5°21'00"N 67°51'36"W, 8–28 aug 2000 W, Villalba, Sample No 513" (pers.

coll. C. Sarmiento); 1 ♀: "Columbia Vicnada PNN, Tuparro Cerro Tomas 140 m, 5°21'00"N 67°51'36"W, 18–28 aug 2000 W, Villalba, Sample No 516" (pers. coll. C. Sarmiento); 1 ♀: "Columbia Vicnada PNN, Tuparro Cerro Tomas 140 m, 5°21'00"N 67°51'36"W, 29 jun – 15 jul 2000 Malaise, Sample No 269 W, Villalba" (pers. coll. C. Sarmiento); 5 ♀: "Moyen XINGU (Brésil), Mission M. Boulard, P. Jauffret et P. Pompanon, Museum PARIS, SAO FELIX DO XINGU, 1–4-X-1975" (MNHN); 4 ♀: "Moyen XINGU (Brésil), Mission M. Boulard, P. Jauffret et P. Pompanon, Museum PARIS, SAO FELIX DO XINGU, 29–30-IX-1975" (one determined *A. thoracica* B. Sigwalt 1984) (MNHN).

Nest.—The nest was not collected with the colony of *A. ambracarina*, so a precise description is not possible. However, I was told that the nest was approximately 15 m high in a tree and appeared to be a typical *Apoica* subgenus *Apoica* (c.f., *Apoica arborea*, Vecht 1972: 738, photo I) nest in all other respects (pers. comm., F. B. Noll).

Etymology.—The name refers to the general amber color of the wasp and the presence of the longitudinal, medial metanotal carina.

Remarks.—*Apoica ambracarina* is distinguishable from other *Apoica* by its amber color and the presence of a longitudinal, median metanotal carina. Although the metasoma of some *Apoica* is light brown or yellowish, the presence of the carina distinguishes *A. ambracarina* from all other known *Apoica* species, except *A. albimacula*. *A. albimacula* also has a metanotal carina, but close examination of the carinae reveals that they are not homologous. The posterior margin of the metanotum is rounded in *A. ambracarina* (Fig. 10A), as is typical of most *Apoica*, whereas *A. albimacula* has a sharply angled metanotum posteriorly (Fig. 10B) and a much more prominent metanotal carina. Also, the carina of *A. albimacula* is near the posterior margin of the metanotum (Fig. 11A) whereas the carina of *A. ambracarina* is more an-



Figs. 6-9. Male genitalia of *Apoica ambracarina*. 6. Aedeagus (ventral view), with enlargements of sensilla (6a) and medial denticles (6b). 7. Aedeagus (lateral view). 8. Right paramere (lateral view) with enlargement of spine showing setae (8a). 9. Right volsella. (lateral view). Scale bars for 6-8 = 0.01 mm. Scale bar for 9 = 0.005 mm.

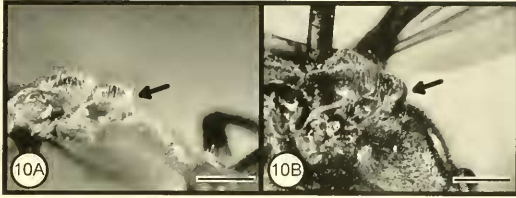


Fig. 10. Lateral view of *Apoica ambrocarina* (A) and *A. albimacula* (B). The metanotum of *A. ambrocarina* is rounded posteriorly (see arrow), whereas the metanotum of *A. albimacula* is more sharply angled (see arrow). Scale bars = 2.0 mm.

terior (Fig. 11B). Although Richards (1978: 262) mentioned in his key to *Apoica* that *A. thoracica* has a "Metanotum usually rounded, rarely with traces of a keel," this is inaccurate. *A. thoracica* does not have a metanotal keel (Fig. 11C). Richards may have included *A. ambrocarina* in his concept of *A. thoracica* if he had seen specimens. In particular, he may have seen some specimens of *A. ambrocarina* in the Muséum National D'Histoire Naturelle that were identified as *A. thoracica* (see Material Examined).

In his discussion of *Apoica thoracica*, Richards (1978: 268) stated "In the collection at Paris are two females marked type, Guyane française: Camopi, 1900 (F. Geay). These are specimens of *A. albimacula*. The whole gaster, including the end-band of gastral tergite 1 to tip of tergite 6 is yellowish brown (perhaps immature) but the pale yellow at the base of tergite 2,

though faded, can still be distinctly seen if carefully looked for. Moreover, the metanotum has a distinct keel." When I first saw the colony of the species described here, I thought it was equivalent to the two unusual specimens described by Richards (1978), because they are light brown to amber colored and possess a metanotal carina. However, since studying these specimens, I have concluded that, although they are much lighter than any other *A. albimacula* specimens I have observed, they are indeed *A. albimacula* and not members of *A. ambrocarina*. The posterior edge of the metanotum of Richards' specimens is sharply pointed, as in *A. albimacula* (Fig. 10B), but this edge is rounded in *A. ambrocarina* (Fig. 10A). Also, *A. ambrocarina* has a pale mark on the posterior tip of the terminal metasomal tergum and dark brown parapsidal furrows on the scutum,

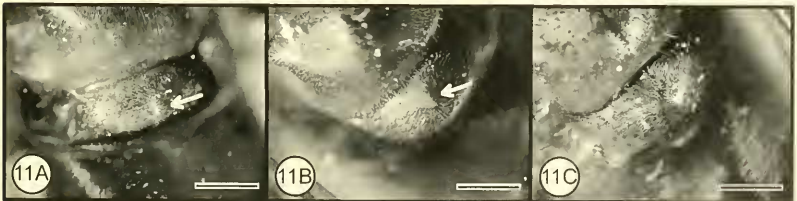


Fig. 11. Oblique posterior views of metanota of *Apoica albimacula* (A), *A. ambrocarina* (holotype) (B), and *A. thoracica* (C). The carina of *A. albimacula* is near the posterior margin of the metanotum (see arrow) whereas the carina of *A. ambrocarina* is more anterior and more blunt (see arrow); *A. thoracica* has no metanotal carina. Scale bars = 1.0 mm.

but these are absent on *A. albimacula* and Richards' specimens.

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